

CRYSTAL ORIENTED CERAMICS AND PRODUCTION METHOD OF SAME

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ABSTRACT OF THE DISCLOSURE

10 The present invention provides crystal oriented ceramics, and a production method of the same, having a basic composition of isotropic perovskite-based potassium sodium niobate, demonstrating superior piezoelectric characteristics, and having a specific crystal plane oriented to a high degree of orientation. The crystal oriented ceramics as claimed in the present invention is  
15 composed of a polycrystalline substance of an isotropic perovskite compound represented by the general formula:  
 $\{Li_x(K_{1-y}Na_y)_{1-x}\}\{Nb_{1-z-w}Ta_zSb_w\}O_3$  (wherein,  $0 \leq x \leq 0.2$ ,  $0 \leq y \leq 1$ ,  $0 \leq z \leq 0.4$ ,  $0 \leq w \leq 0.2$ ,  $x + z + w > 0$ ), and a specific crystal plane of each crystal grain that  
20 composes said polycrystalline substance is oriented. Such crystal oriented ceramics are obtained by molding a mixture of a first anisotropic shaped powder, for which the growth plane has lattice coherency with a specific crystal plane of the isotropic perovskite compound to be  
25 produced, and a first reaction raw material, so that the first anisotropic shaped powder is oriented, followed by heating.